

- [54] **RIBBON FEED MECHANISM**
[75] **Inventor:** Stephen M. Pawlak, Cortland, N.Y.
[73] **Assignee:** SCM Corporation, New York, N.Y.
[21] **Appl. No.:** 660,662
[22] **Filed:** Oct. 15, 1984
[51] **Int. Cl.⁴** B41J 35/28; B41J 33/24
[52] **U.S. Cl.** 400/208; 400/228
[58] **Field of Search** 226/53, 193; 242/62,
242/65; 400/228, 223, 224, 227, 227.1, 235,
235.1, 236, 207, 208, 208.1

Disclosure Bulletin, vol. 25, No. 10, Mar. 1983, p. 5376, by Davis et al.

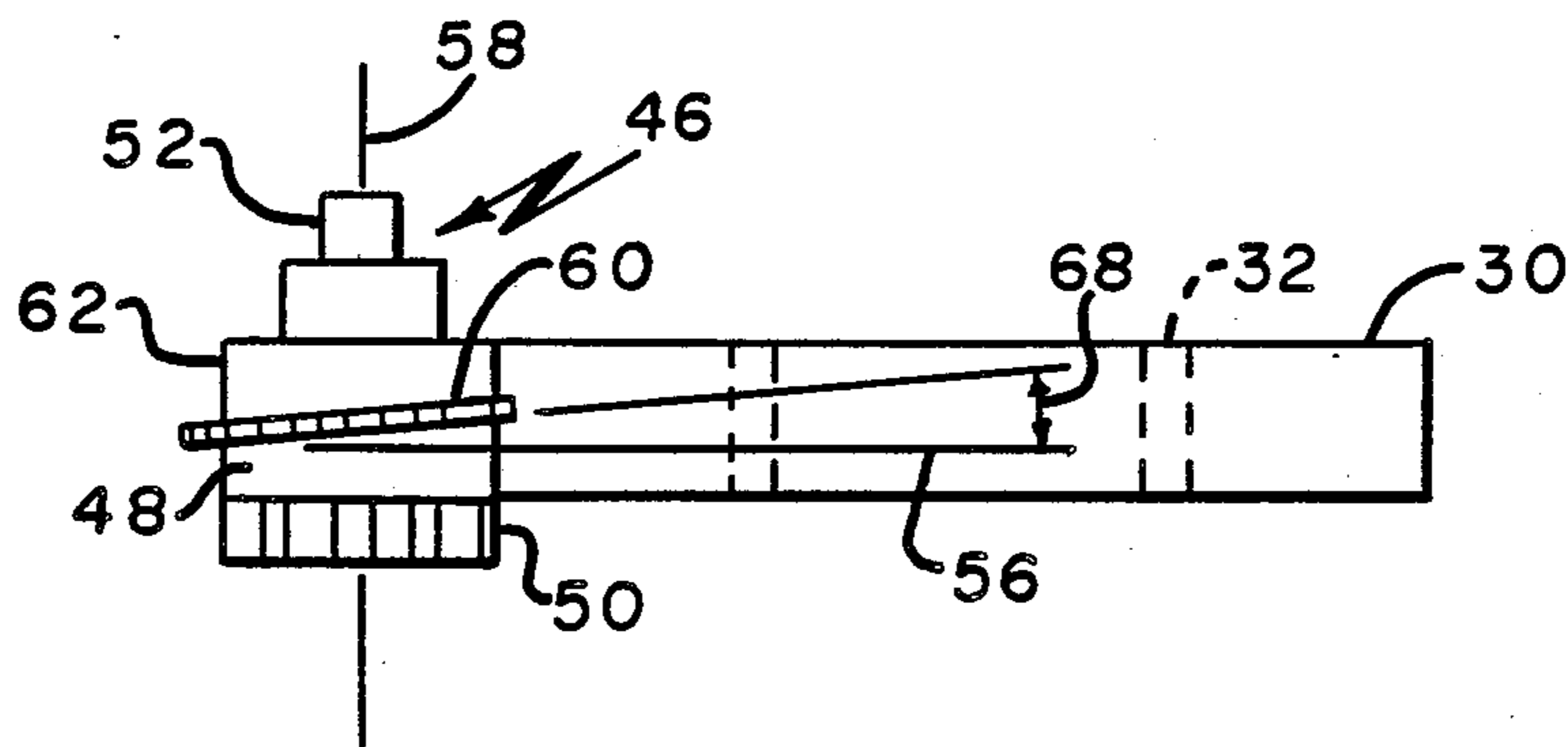
Primary Examiner—Edgar S. Burr
Assistant Examiner—Charles A. Pearson
Attorney, Agent, or Firm—Kenneth W. Greb; Ernest F. Weinberger

- [56] **References Cited**
U.S. PATENT DOCUMENTS
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4,319,850 3/1982 Rello et al. 400/208 X
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[57] **ABSTRACT**
A ribbon feed mechanism for printing machines has a toothed wheel rigidly mounted on a drive shaft at an angle relative to a plane perpendicular to the drive shaft axis. The toothed wheel will penetrate layers of outer convolutions of a roll of film ribbon on a take-up spool at varying locations relative to the ribbon width for feeding the film ribbon with equal length increments more consistently.

OTHER PUBLICATIONS
"Spiked Ribbon Driver Assembly" IBM Technical

4 Claims, 7 Drawing Figures



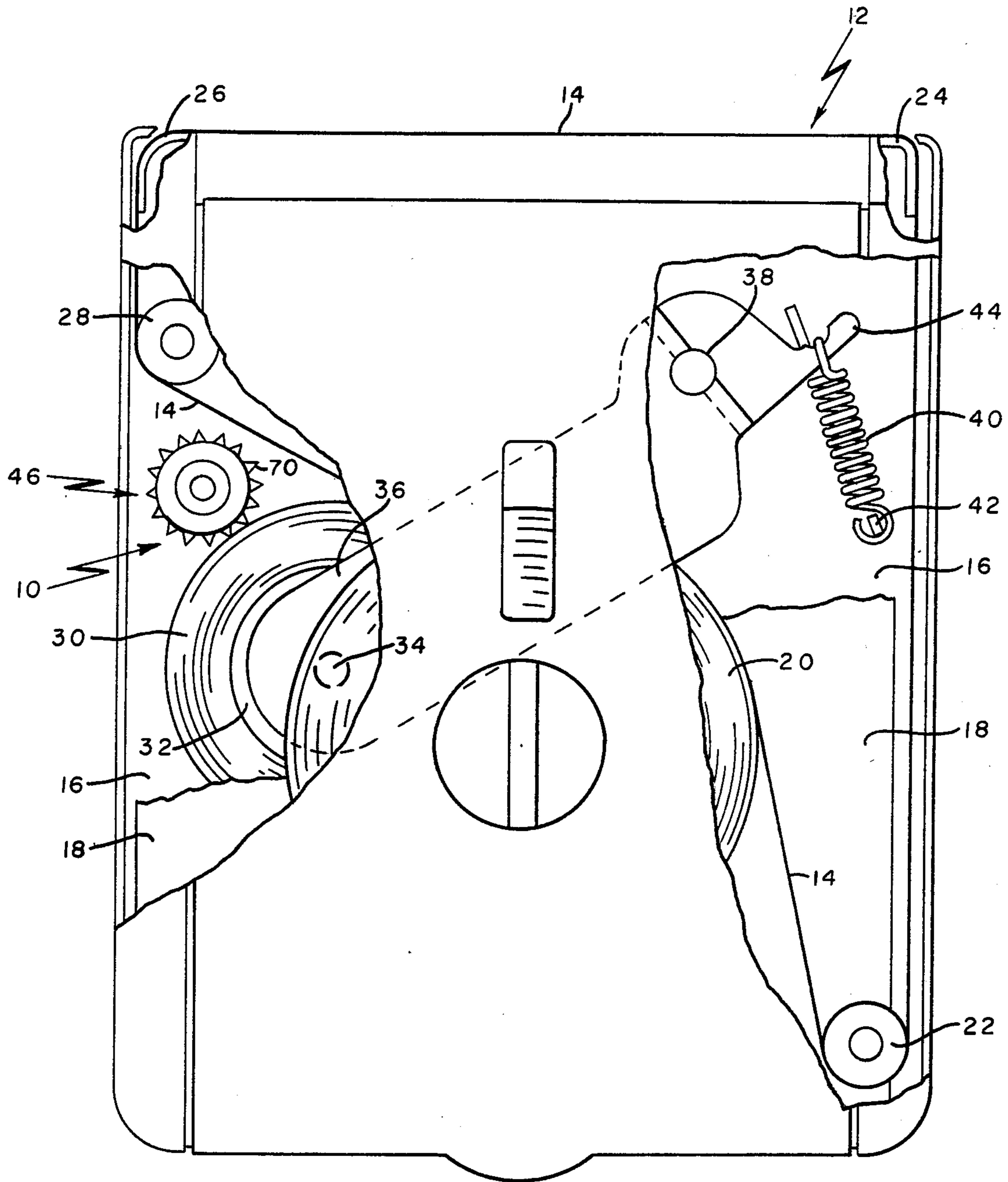
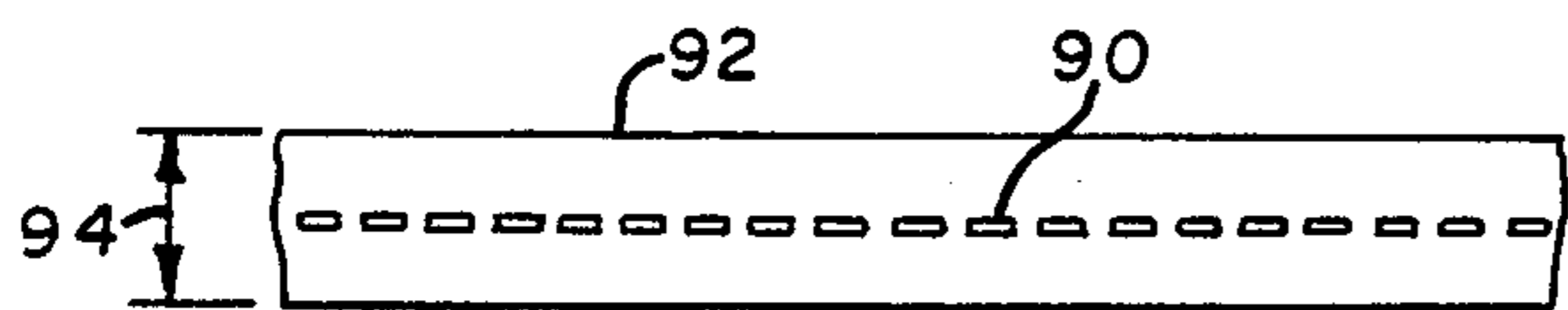
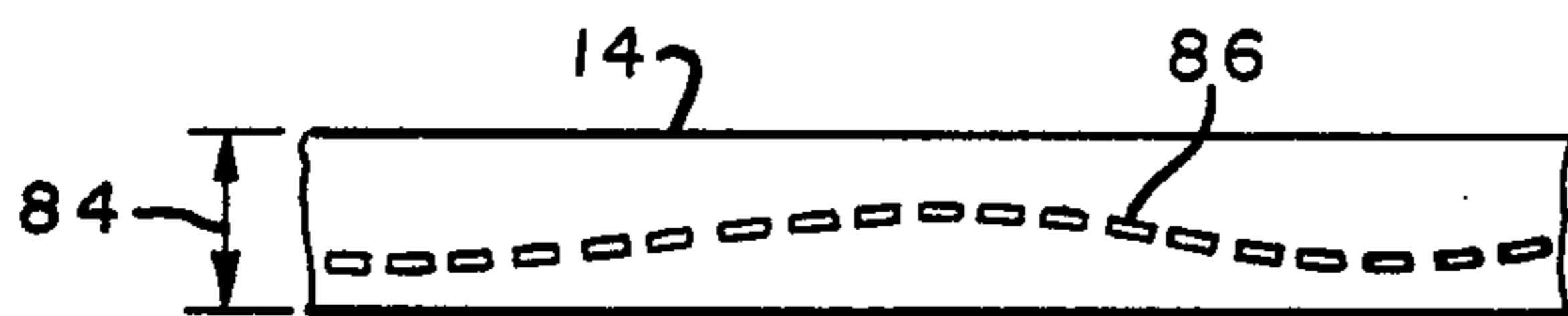
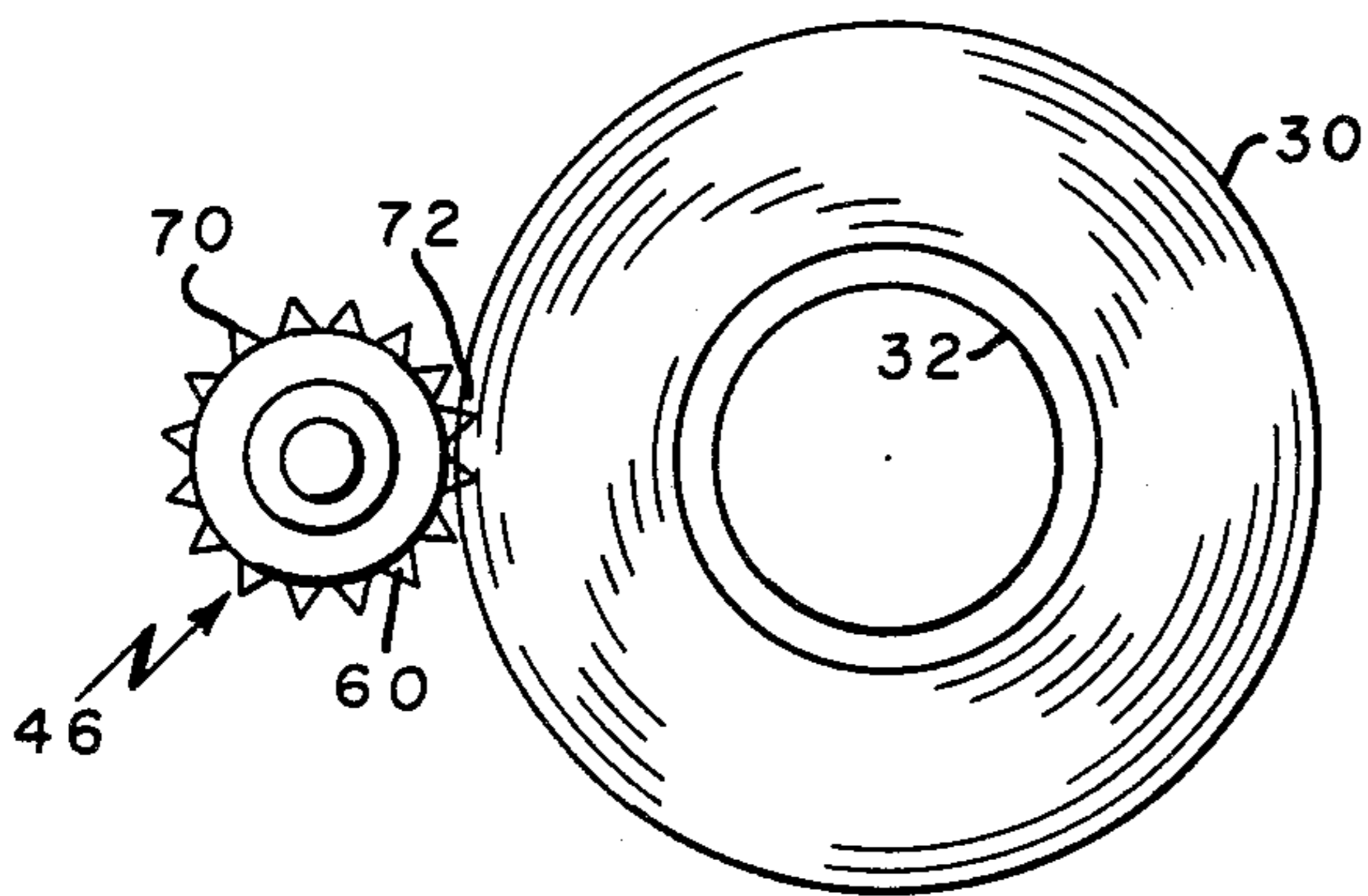
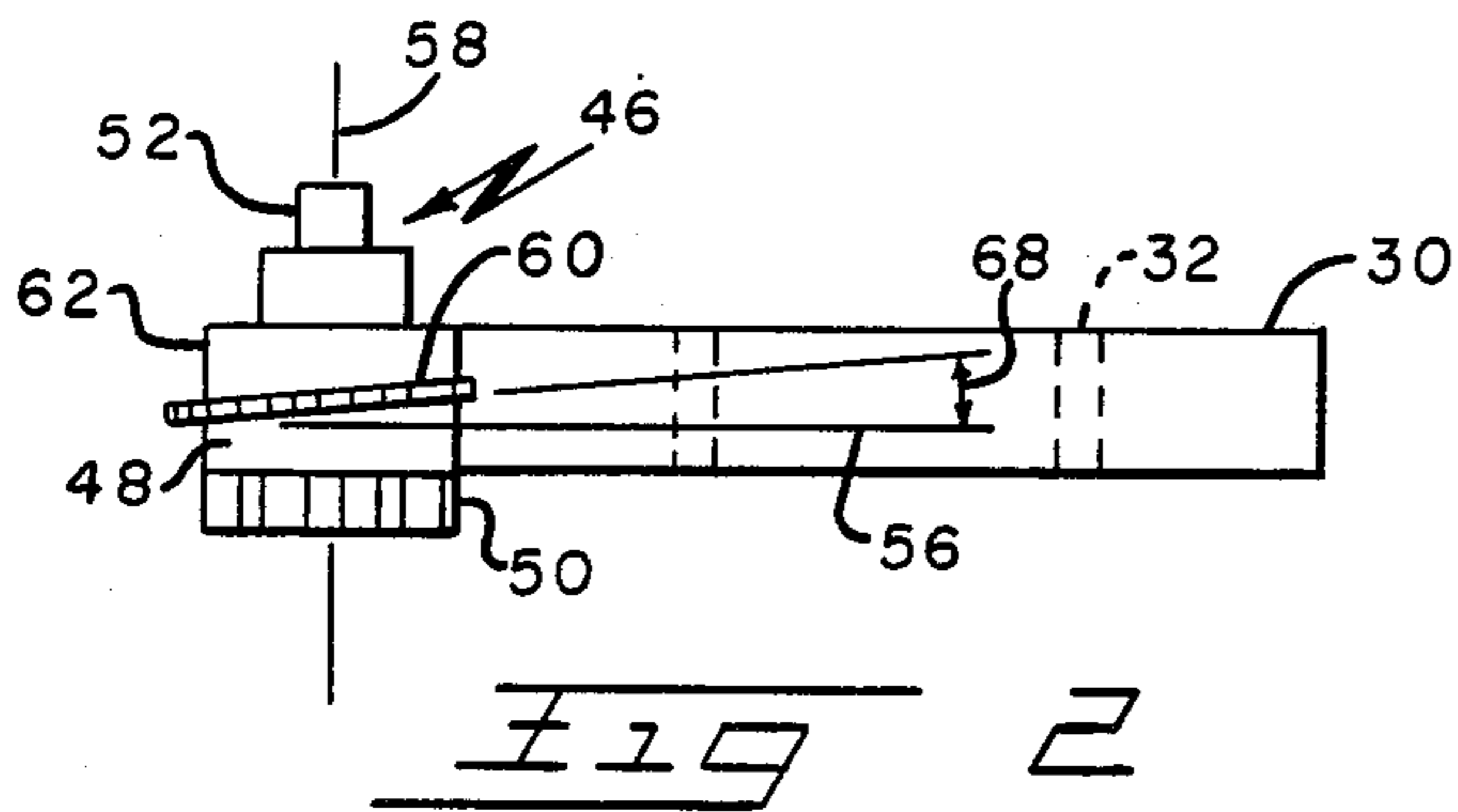
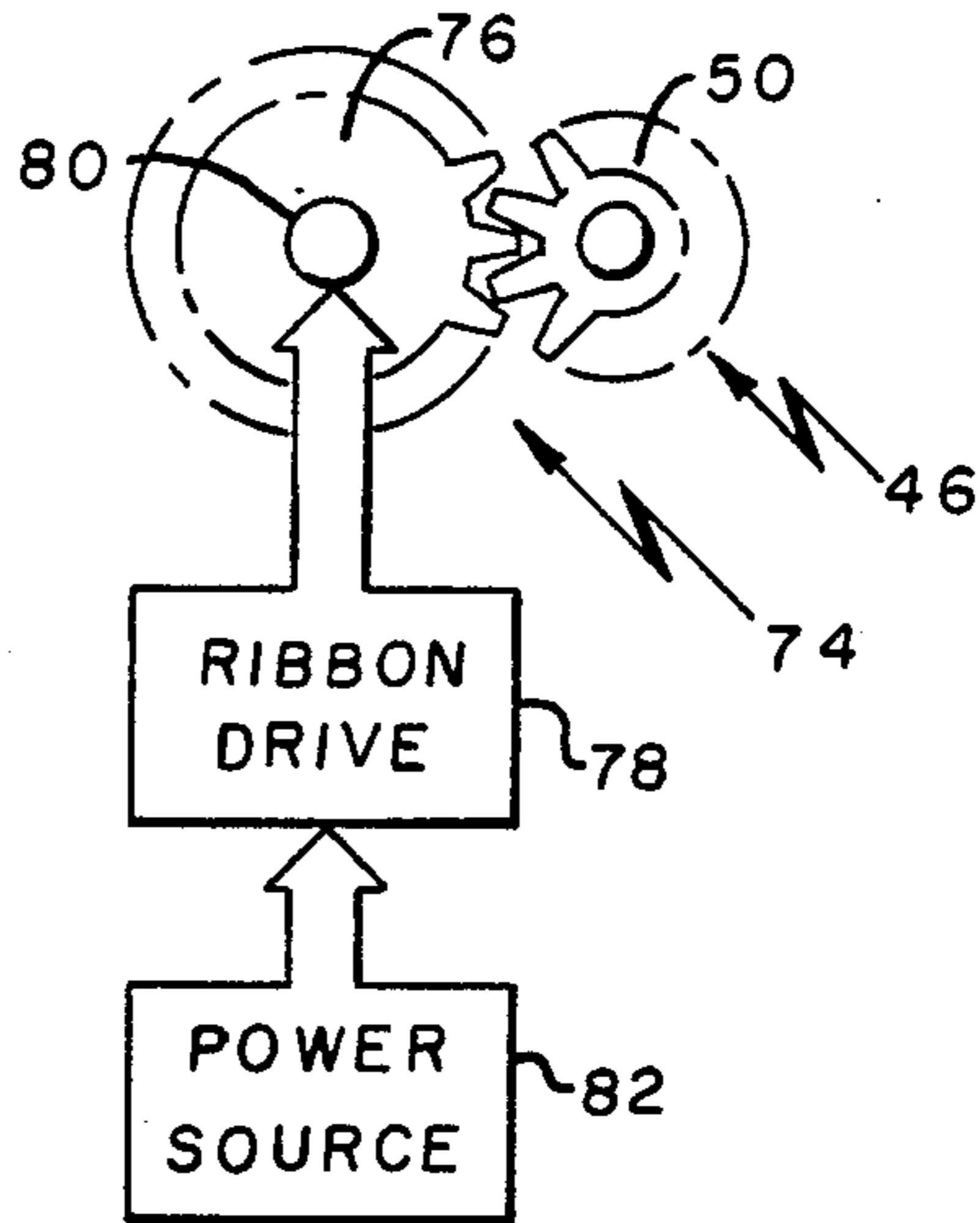
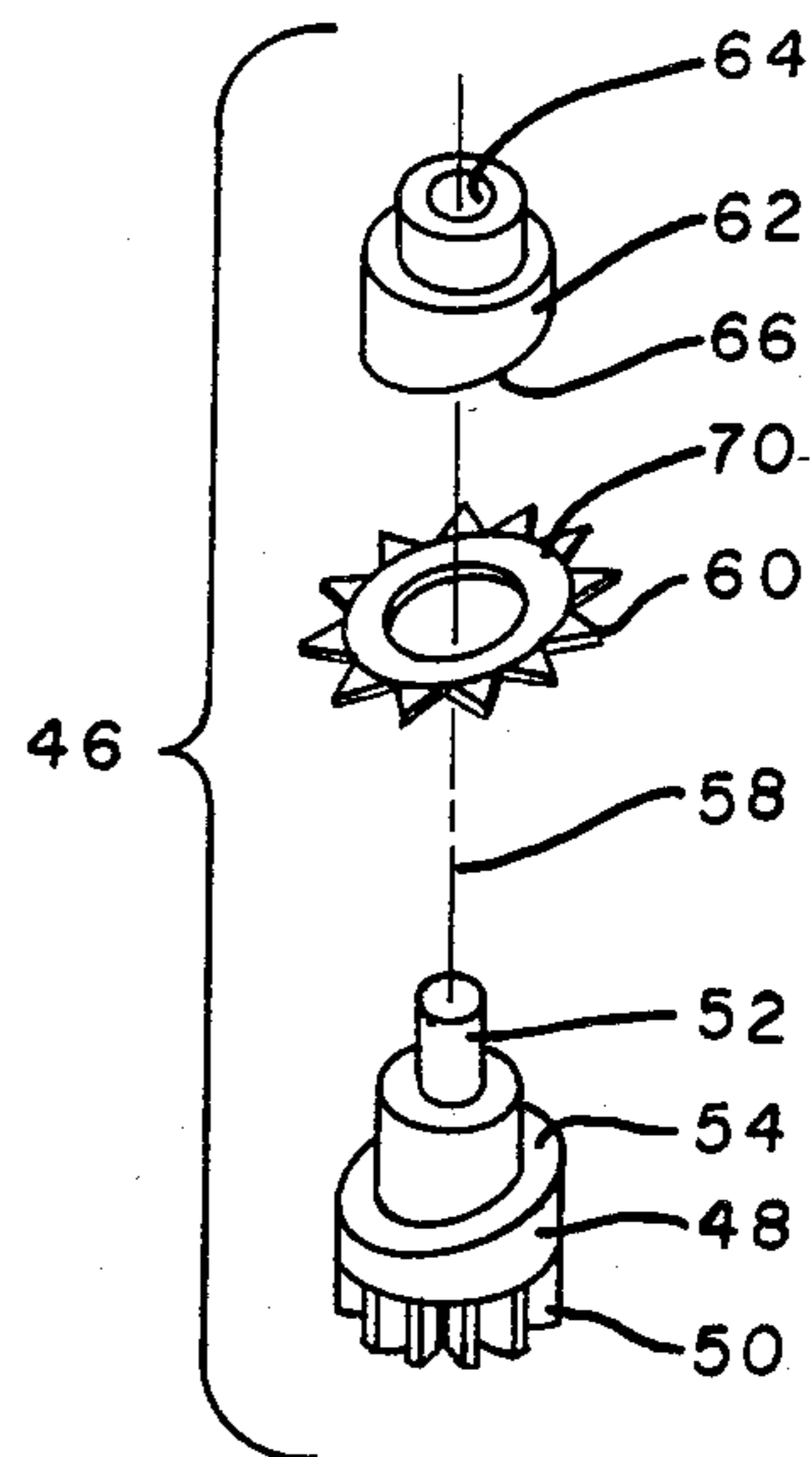


FIG 1



PRIOR ART



[54] BACKSPACE DEVICE IN TYPEWRITER

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[73] Assignee: Tokyo Juki Industrial Co., Ltd., Tokyo, Japan

[21] Appl. No.: 550,291

[22] Filed: Nov. 9, 1983

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 287,692, Jul. 28, 1981, abandoned.

[30] Foreign Application Priority Data

Aug. 11, 1980 [JP] Japan 55-110952

[51] Int. Cl.⁴ B41J 19/62

[52] U.S. Cl. 400/310; 400/307.2; 400/312; 400/478; 400/665

[58] Field of Search 400/161.1, 166, 307.2, 400/308, 309, 310, 311, 312, 478, 665

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- 2,879,876 3/1959 Palmer et al. 400/161.1
- 3,366,215 1/1968 Hosey et al. 400/310
- 3,618,736 11/1971 Abell, Jr. et al. 400/166

OTHER PUBLICATIONS

IBM Technical Disclosure Bulletin, "Self-Phasing Backspace Mechanism", Schaefer, vol. 12 No. 12, May 1970, p. 2192.

IBM Selectric Typewriter Service Manual, dated May, 1975, pp. 80, 101, 105, 113, 117.

Primary Examiner—Ernest T. Wright, Jr.
Attorney, Agent, or Firm—Koda and Androlia

[57] ABSTRACT

A backspace device in a typewriter comprising: an interposer operable by the operation of a key lever; a cycle bail operable by the interposer; a cycle clutch for intermittently transmitting a driving force from a driving source to a main shaft so that the main shaft can be rotated by a predetermined number of times in association with the cycle bail; an actuating bail for performing a cycle of a motion along a moving path of a predetermined mode by a full turn of the main shaft, while rendering to the interposer a motion in a direction of the interposer leaving the cycle bail during the motion; a backspace link for moving in association with the interposer during the leaving motion of the interposer; a backspace rack extending laterally of the typewriter, supported rotatably about an axis laterally disposed and turned to a working position by the backspace link; and a backspace pawl fastened onto a carriage so that it can be reciprocated a predetermined distance in the lateral direction by a cam rotatable integrally with the main shaft and having a toothed portion to be meshed with the backspace rack rotated to the working position; wherein the carriage is retracted by a predetermined value of pitch along the main shaft by a reaction force generated at a portion of the engagement of the backspace pawl with the backspace rack by a motion of the backspace pawl.

3 Claims, 14 Drawing Figures

